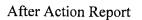


After Action Report

Comanche Peak Nuclear Power Plant - TX
Radiological Emergency Preparedness Exercise
Exercise Date: 11/06/2019

02/06/20





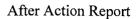
Comanche Peak Nuclear Power Plant - TX

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Radiological Eme	rgency Preparednes	s Program
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Comanche Peak Nuclear Power Plant - TX

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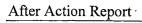
Executive Summary

On November 6, 2019 a Radiological Emergency Preparedness (REP) exercise was conducted at Comanche Peak Nuclear Power Plant (CPNPP) located near Glen Rose, Texas. The purpose of the exercise was to assess the level of preparedness of state and local responders to a simulated emergency at CPNPP. This exercise was conducted in accordance with U.S. Department of Homeland Security/Federal Emergency Management Agency (DHS/FEMA) policy and guidance concerning implementation of state and local emergency preparedness plans and procedures.

The qualifying exercise to satisfy FEMA rule 44 Code of Federal Regulations (CFR) 350 requirements for Nuclear Regulatory Commission (NRC) licensing to operate the facility was conducted in July 1989. Including the exercise on November 6, 2019, there have been sixteen FEMA Region VI evaluated exercises and several drills conducted since that time.

FEMA Region VI wishes to acknowledge the dedicated participation of many individuals in the State of Texas and Somervell and Hood Counties. Some of these participants are paid civil servants whose full-time job is to protect the health and safety of the public within the jurisdictions they serve. Many more are volunteers who make themselves available to perform a service to the community in which they live. Their participation is particularly noteworthy.

This report contains the final written evaluation of the biennial exercise. The state and local organizations except where noted in this report demonstrated knowledge of the emergency plans and procedures and properly implemented them. There were no Level 1 or Level 2 Findings and four plan issues identified during this exercise.



Comanche Peak Nuclear Power Plant - TX

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Section 1: Exercise Overview

1.1 Exercise Details

Exercise Name

2019 Comanche Peak Plume Exercise

Type of Exercise

Plume

Exercise Date

11/06/2019

Locations

See the extent-of-play agreement in Appendix D for exercise locations.

Program

United States Department of Homeland Security, Federal Emergency Management Agency, Radiological Emergency Preparedness Program

Mission

National Preparedness

1.2 Exercise Planning Team Leadership

Lisa Hammond Acting RAC Chair FEMA Region VI 800 N Loop 288 Denton, TX 76209 (940) 898-5199 lisa.hammond@fema.dhs.gov

Brad DeKorte Federal Lead Planner FEMA Region VI 800 N Loop 288 Denton, TX 76209 (940) 383-7304 brad.dekorte@fema.dhs.gov

Glenn Corbin
State Emergency Planner
Texas Department of State Health Services
P.O. Box 149347
Austin, TX, 78714
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Kelly Faver
Licensee Emergency Planner
Comanche Peak Nuclear Power Plant
P.O. Box 1002
Glen Rose, TX, 76042
254-897-5628
kelly faver@luminent.com

1.3 Participating Organizations

State

Texas Department of Public Safety Texas Department of State Health Services Texas Division of Emergency Management

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Risk Jurisdictions

Hood County Somervell County City of Glen Rose City of Granbury

Private Organizations

American Red Cross Comanche Peak Nuclear Power Plant (Luminant) Radio Station WBAP

Section 2: Exercise Design Summary

2.1 Exercise Purpose and Design

The DHS/FEMA Region VI Office evaluated the exercise on November 6, 2019 to assess the capabilities of the local emergency preparedness organizations in implementing their Radiological Emergency Response Plans and Procedures to protect the public health and safety during a radiological emergency involving Comanche Peak Nuclear Power Plant (CPNPP). The purpose of this report is to represent the results of the findings on the performance of the offsite response organizations during a simulated radiological emergency.

2.2 Exercise Core Capabilities and Objectives

Core capabilities-based planning allows for exercise planning teams to develop exercise objectives and observe exercise outcomes through a framework of specific action items. Using the Homeland Security Exercise and Evaluation Program methodology, the exercise objectives meet the Radiological Emergency Preparedness Program requirements and encompass the emergency preparedness evaluation areas.

2.3 Exercise Scenario

The exercise scenario was developed to evaluate the response of the exercise participants to an incident requiring response to a simulated emergency at the Comanche Peak Nuclear Power Plant (CPNPP). The scenario provided for the evaluation of the Texas Division of Emergency Management (TDEM), Texas Department of State Health Services-Radiation Control Program (DSHS-RCP), and Hood and Somervell Counties to the emergency at CPNPP.

Section 3: Analysis of Capabilities

3.1 Exercise Evaluation and Results

This section contains the results and findings of the evaluation of all jurisdictions and functional entities that participated in the 11/06/2019 Comanche Peak Plume Exercise.

Each jurisdiction and functional entity was evaluated based on the demonstration of core capabilities, capability targets, critical tasks, and the underlying Radiological Emergency Preparedness criteria as delineated in the Federal Emergency Management Agency Radiological Emergency Preparedness Program Manual dated January 2016. Exercise criteria are listed by number, and the demonstration status of those criteria are indicated by the use of the following terms:

- Met (M): No Findings assessed and no unresolved Findings from prior exercises.
- Level 1 (L1) Finding: An observed or identified inadequacy of organizational performance in an exercise that could cause a determination that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a Nuclear Power Plant (NPP).
- Level 2 (L2) Finding: An observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety.
- Plan (P) Issue: An observed or identified inadequacy in the offsite response organizations' (ORO's) emergency plan/implementing procedures, rather than that of the ORO's performance.
- N: Not demonstrated

3.2 Summary Results of Exercise Evaluation

DATE: 11/06/2019 SITE: Comanche Peak Nuclear Power Plant - TX M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan Issue, N: Not Demonstrated	Mobilizatroin	Facilities	Direction and Control	Communications Equipment	Equipment and Supplies to Support Operations
Emergency Operations Management	lal	lbl	-lc1	11d1	lel
DSHS EOF	M		_M_	M	M
DSHS Field Monitoring Team 2				M	M
DSHS Field Monitoring Team 1				M	M
Hurst DDC	M		M	M	M
Somervell County EOC	M		M	M	P

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Hood County EOC		M	M	M	P
JIC	1	M		M	M

DATE: 11/06/2019 SITE: Comanche Peak Nuclear Power Plant - TX M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan Issue, N: Not Demonstrated	Emergency Worker Exposure Control	ose Asse	PADs for the Emergency Event	PADs for the Protection of persons with disabilities and access/functional needs	Radiological Assessment and Decision-making for the Ingestion Exposure Pathway	Radiological Assessment & Decision-making Concerning Post-Plume Phase Relocation, Reentry, and Return
Protective Action Decision-Making	2a1	2b1	2b2	2c1	2d1	2e1
DSHS EOF	M	M	}			
Somervell County EOC	M		M	M		
Hood County EOC	M		M	M		

DATE: 11/06/2019 SITE: Comanche Peak Nuclear Power Plant - TX M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan Issue, N: Not Demonstrated	Implementation of Emergency Worker Exposure Control	Implementation of KI Decision for Institutionalized Individuals and the Public	Implementation of Protective Actions for persons with disabilities and access/functional needs	Implementation of Traffic and Access Control	Implementation of Ingestion Exposure Pathway Decisions	Implementation of Post-Plume Phase Relocation, Reentry, and Return Decisions
Protective Action Implementation	3 a 1	361	3c1 3c2	3d1 3d2	3e1 3e2	3fl
DSHS EOF	M	_				
DSHS Field Monitoring Team 2	M					
DSHS Field Monitoring Team 1	M					,
Somervell County EOC	M	M		M M		
Hood County EOC	M	P		M M		

DATE: 11/06/2019 SITE: Comanche Peak Nuclear Power Plant - TX M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan Issue, N: Not Demonstrated	i	Plume Phase Field Measurement and	Analyses	Post Plume Phase Field Measurements and Sampling	Laboratory Operations
Field Measurements and Analyses		4a2	4a3	461	4c1
DSHS EOF		M			
DSHS Field Monitoring Team 2			P		
DSHS Field Monitoring Team 1			М		

DATE: 11/06/2019 SITE: Comanche Peak Nuclear Power Plant - TX M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan Issue, N: Not Demonstrated	Activation of the Prompt Alert and Notification System		. Emergency Information and Instructions for the Public and the Media		
Emergency Notification and Public Information	5a1	5a2	5a3	5a4	5b1
WBAP Radio	M				
Somervell County EOC	M				M
Hood County EOC	M				M
JIC					M

DATE: 11/06/2019 SITE: Comanche Peak Nuclear Power Plant - TX M: Met, L1: Level 1 Issue, L2: Level 2 Issue, P: Plan Issue, N: Not Demonstrated	Monitoring, Decontamination, and Registration of Evacuees	Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles	Temporary Care of Evacuees	Transportation and Treatment of Contaminated Injured Individuals
Support Operations/ Facilities	6a1	6b1	6c1 .	6d1
Bosque County Shelter			M	

3.2.1 DSHS EOF

For this venue the following Radiological Emergency Preparedness criteria were MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 3.a.1, 4.a.2.

a. Level 1 Finding: None

b. Level 2 Finding: None

c. Plan Issues: None

3.2.1 DSHS Field Monitoring Team 2

For this venue the following Radiological Emergency Preparedness criteria were MET: 1.d.1, 1.e.1, 3.a.1.

a. Level 1 Finding: None

b. Level 2 Finding: None

c. Plan Issues: 1

ISSUE 14--4a3-P-004

CONDITION: Field teams set samplers to draw air samples at flow rates in excess of 2 cubic feet per minute (cfm).

POSSIBLE CAUSE:

Flow rates to collect air samples for particulates and iodines were not designated in the air sampling procedures.

REFERENCE:

NUREG-0656/FEMA REP-1, Planning Standard I.9 FEMA REP-2

EFFECT:

Iodine collection efficiencies provided by silver zeolite cartridge manufacturers show that collection efficiencies for methyl iodide drop off significantly at flow rates in excess of 2 cfm. Texas iodine concentration calculations assume an 80% collection efficiency for iodine concentration calculations using a silver zeolite cartridge. If the collection

efficiency is less than 80% for iodines, the concentration calculations will be lower than actual concentrations. Also, the system may not be capable of detecting and measuring radioiodine concentrations in air as low as $10^{-7} \,\mu\text{Ci/cc}$ under field conditions.

As additional notes, particulate filters have high collection efficiencies, as long as the collection flow rate is at 1 cfm or greater to effect impingement. Most systems assume a collection efficiency of 90% for iodine and 99% for particulates.

RECOMMENDATION:

The Field Team Coordinator corrected the condition by briefing that air samples would be collected at 2 cfm. However, no edit was made to the procedures.

The procedures should be edited to document that air samples will be collected using a flow rate between 1 and 2 cubic feet per minute.

3.2.1 DSHS Field Monitoring Team 1

For this venue the following Radiological Emergency Preparedness criteria were MET: 1.d.1, 1.e.1, 3.a.1, 4.a.3.

- a. Level 1 Finding: None
- b. Level 2 Finding: None
- c. Plan Issues: None

3.2.1 Hurst DDC

For this venue the following Radiological Emergency Preparedness criteria were MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1.

- a. Level 1 Finding: None
- b. Level 2 Finding: None
- c. Plan Issues: None

3.2.1 Somervell County EOC

For this venue the following Radiological Emergency Preparedness criteria were MET: 1.a.1, 1.c.1, 1.d.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.d.1, 3.d.2, 5.a.1, 5.b.1.

a. Level 1 Finding: None

b. Level 2 Finding: None

c. Plan Issues: 1

ISSUE 14--1e1-P-003

CONDITION: The Somervell County Radiological Officer did not adequately perform an operability check on the SAIC Canberra Model Number PPM-2000A Portal Monitor before putting it into operation.

POSSIBLE CAUSE:

The Radiological Officer may not have been sufficiently trained and did not have a documented procedure to follow.

REFERENCE:

NUREG-0654/FEMA-REP1, H.10

EFFECT:

The portal monitor was not functioning properly reading extremely high counts per second. Emergency workers passing though the portal monitor to enter the EOC would potentially be found to have high levels of contamination, not allowing them to enter the EOC to perform necessary response functions.

RECOMMENDATION:

Revise the Somervell County Radiological Emergency Response Plan and supporting procedures to include instructions on performing an operability check on portal monitors prior to use and procedures on troubleshooting the portal monitor when not functioning properly.

3.2.1 Hood County EOC

For this venue the following Radiological Emergency Preparedness criteria were MET: 1.a.1, 1.c.1, 1.d.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.d.1, 3.d.2, 5.a.1, 5.b.1.

a. Level 1 Finding: None

b. Level 2 Finding: None

c. Plan Issues: 2

ISSUE 14--1e1-P-001

CONDITION: The Hood County Radiological Officer did not perform an operational check on the PPM-2000 portal monitor before putting it into operation.

POSSIBLE CAUSE:

The Radiological Officer may not have been sufficiently trained and did not have a documented procedure to follow.

REFERENCE:

NUREG-0654/FEMA-REP1, H.10

EFFECT:

The portal monitor may not have been functioning properly, but without conducting an operational check prior to use, this would not be identified. Emergency workers entering the EOC through the portal monitor could have been found to be free of contamination, but actually be contaminated. Contamination could have then been spread throughout the EOC resulting in unnecessary exposure.

RECOMMENDATION:

Revise the Hood County Radiological Emergency Response Plan and supporting procedures to include instructions on performing an operational check on portal monitors prior to use.

ISSUE 14--3b1-P-002

CONDITION: There are no provisions to provide KI to the Care Givers for Institutionalized Individuals.

POSSIBLE CAUSE:

There are no provisions in the Hood County Manual of Emergency Procedures (May 2013) to provide KI to the Care Givers for Institutionalized Individuals.

REFERENCE:

NUREG-0654/FEMA-REP-1, J.10.e, f

EFFECT:

Care Givers that remain with institutionalized individuals do not receive the benefits of administering a radioprotective drug as an exposure control meathod.

RECOMMENDATION:

Update the Hood County Manual of Emergency Procedures to provide provisions to distribute KI to these individuals.

3.2.1 ЛС

For this venue the following Radiological Emergency Preparedness criteria were MET: 1.a.1, 1.d.1, 1.e.1, 5.b.1.

- a. Level 1 Finding: None
- b. Level 2 Finding: None
- c. Plan Issues: None

3.2.1 WBAP Radio

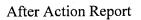
For this venue the following Radiological Emergency Preparedness criteria were MET: 5.a.1.

- a. Level 1 Finding: None
- b. Level 2 Finding: None
- c. Plan Issues: None

3.2.1 Bosque County Shelter

For this venue the following Radiological Emergency Preparedness criteria were MET: 6.c.1.

- a. Level 1 Finding: None
- b. Level 2 Finding: None
- c. Plan Issues: None



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Section 4: Conclusion

Based on the results of the drill, the offsite radiological emergency response plans and preparedness for the State of Texas and the affected local jurisdictions are deemed adequate to provide reasonable assurance that appropriate measures can be taken to protect the health and safety of the public in the event of a radiological emergency. Therefore, 44 CFR Part 350 approval of the offsite radiological emergency response plans and preparedness for the State of Texas site-specific to Comanche Peak Nuclear Power Plant will remain in effect.

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Appendix A: Exercise Timeline

	2xppcnc	11A A. 12.	xercise i	IIIICIIIIC			
Emergency Classification Level or Event	Time Utility Declared	DISASTER DISTRICT	OF	IC	HOOD COUNTY	SOMERVELL CO. EOC	WBAP RADIO STATION
. *	Ď	AST	DSHS EOF	CPNPP JIC	0 Q	IER,	AP R TIO
`,	Tim	DIS,	DSH	CPN CPN	HOCE	SON	WB/
Unusual Event	0757	0824	0828	0804	0804	0804	
Alert	0828	0836	0850	0834	0835	0832	-
Site Area Emergency	1029	1044	1050	1039	1038	1037	1045
General Emergency	1100	1110	1101	1109	1114.	1109	1120
Simulated Rad. Release Started	1029	1040	1105	1039	1037	1037	1120
Simulated Rad. Release Terminated		,					
Facility Declared Operational		0830		0917	0841	0900	-
Declaration of State of Emergency	v	1125			. 1120	1125	
Exercise Terminated		1338	1337	1336	1340	1338	1337
Early Precautionary Action:		0929		0912	0912	0912	122
1st Protective Action Decision:		1116		1048	1050	1050	
Evac: Shelter:		,			1030	1030	
- 							
1st Siren Activation		1053	-	1053	1053	1053	
1st EAS or EBS Message		1055		1055	1055	1055	1055
2nd Protective Action Decision:		1215	.1	1110	1110	1109	
Evac: Shelter:					1110	1105	
					٠		
2nd Siren Activation		1128		1128	1128	1128	
2 nd EAS or EBS Message	-	1130		1130	1130	1130	1130
KI Administration Decision:		1205	1147	1155	1157	1154	
3 rd Siren Activation		1223	_	1223	1223	1223	
3 rd EAS Message		1225		1225	1225	1225	1225
		. 1223			1223	1223	1223
		•				· ·	

Appendix B: Exercise Key Leaders and Evaluators

Regional Assistance Committee (RAC) Chair: Lisa Hammond

Site Specialist: Brad Dekorte (Acting)

Location / Venue	Evaluation Team
DSHS EOF	Timothy Pflieger, Nan
<u> </u>	Williams
DSHS Field Monitoring	George Brozowski
Team 2	
DSHS Field Monitoring	Michael Howe
Team 1	
Hurst DDC	Joseph Suders
Somervell County EOC	Lee Torres, Christopher
	Nemcheck, Alonzo McSwain,
	Alfred Hickman Jr.
Hood County EOC	Linda Gee, Jennifer Greene,
1	Matthew Celia, LaShawn
	Halsey
JIC	Taneeka Hollins, Janet
	Hlavaty laposa
WBAP Radio	Elsa Lopez
Bosque County Shelter	Linda Gee

PRIMARY RESPONSIBLE AGENCY: Hood

APPENDIX C: IMPROVEMENT PLAN

ISSUE NUMBER: 141e1-P-001	
Criterion 1e1	
CONDITION: The Radiological Officer did r	
2000 portal monitor before putting it into opera	ation.
REFERENCE:	
NUREG-0654/FEMA-REP1, H.10	
RECOMMENDATION: 1) Revise the Hood County Radiological I procedures to include instructions on proprior to use.	Emergency Response Plan and supporting erforming an operational check on portal monitors
prior to use.	
CORRECTIVE ACTION DESCRIPTION:	
	PRIMARY RESPONSIBLE AGENCY: Hood County
Venue Assessed: Hood County EOC	START DATE:
AGENCY POC:	ESTIMATED COMPLETION DATE:
ISSUE NUMBER: 143b1-P-002 Criterion 3b1	
CONDITION: There are no provisions to pro- Individuals	vide KI to the Care Givers for Institutionalized
REFERENCE:	
NUREG-0654/FEMA-REP-1, J.10.e, f	
	nergency Procedures to add provisions to provide hals residing and working at the Assisted Living
CORRECTIVE ACTION DESCRIPTION:	

Venue Assessed: Hood County EOC

County

START DATE:

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AGENCY POC:	ESTIMATED COMPLETION DATE:

ISSUE NUMBER: 14--1e1-P-003

Criterion 1e1

CONDITION: The Radiological Officer did not adequately perform an operability check on the SAIC Canberra Model Number PPM-2000A Portal Monitor before putting it into operation. Although the staff were aware the portal monitor was not functioning correctly, they were not aware of how to troubleshoot the portal to reset readings from counts per second to count per minute.

REFERENCE:

NUREG-0654/FEMA-REP1, H.10

RECOMMENDATION:

Revise the Somervell County Radiological Emergency Response Plan and supporting
procedures to include instructions on performing an operability check on portal monitors
prior to use and procedures on troubleshooting the portal monitor when not functioning
properly.

CORRECTIVE ACTION DESCRIPTION:

	PRIMARY RESPONSIBLE AGENCY: Somervell County
Venue Assessed: Somervell County EOC	START DATE:
AGENCY POC:	ESTIMATED COMPLETION DATE:

ISSUE 14--4a3-P-004

Criterion 4a3 -

CONDITION: Field teams set samplers to draw air samples at flow rates in excess of 2 cubic feet per minute (cfm).

REFERENCE:

NUREG-0656/FEMA REP-1, ľ.9

FEMA REP-2

RECOMMENDATION:

- 1) The Field Team Coordinator corrected the condition by briefing that air samples would be collected at 2 cfm. However, no edit was made to the procedures.
- 2) The procedures should be edited to document that air samples will be collected using a flow rate between 1 and 2 cubic feet per minute.

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CORRECTIVE ACTION DESCRIPTION:	
	PRIMARY RESPONSIBLE AGENCY: DSHS
Venue Assessed: DSHS Field Monitoring Teams	START DATE:
AGENCY POC: Glenn Corbin, DSHS	ESTIMATED COMPLETION DATE:

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Appendix D: Extent of Play Agreements

EVALUATION AREA 1: EMERGENCY OPERATIONS MANAGEMENT

<u>Sub-element 1.a - Mobilization</u> Criterion 1.a.1:

FEMA REP: Sub-element 1.a – Mobilization	Criterion 1.a.1:	Off-site Response Organizations (OROs) use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654/FEMA-REP-1, A.1.a, e; A.3, 4; C.1, 4, 6; D.4; E.1, 2; H.3, 4)
CORE CAPABILITY: Operational Coordination	Objective 1: Objective 2:	Mobilize key emergency personnel in a timely manner. Demonstrate the ability to maintain and staff 24-hour operations (provide a roster).
CORE CAPABILITY: Operational Communications	Objective 1: Objective 2:	Receive notification of an incident from STP & verify the notification in a timely manner. Contact and alert key emergency personnel in a timely manner.

Locations:

Findings: NONE

Disaster District 4A Hurst (Hurst DDC 4A) / Fort Worth JEOC

DSHS RCP Emergency Operation Facility (EOF)

Joint Information Center (JIC)

Hood County Emergency Operation Center (EOC), and Somervell County EOC

Extent of Play: DSHS personnel will pre-stage at the DSHS staging located at the Comanche Peak (CP) Visitor Center Auditorium located at 6322 North FM 56 Glen Rose TX 76043-1002. Regardless of the scenario, no facilities/activities will relocate during this exercise. The DSHS Radiological Mobile Lab will not be evaluated during this exercise. Two (2) DSHS Field Monitoring Teams (FMTs) will be deployed and evaluated by FEMA. Both DSHS FMTs will have Department of Public Safety (DPS) escorts. Drill evaluators and controllers may be required to travel in separate vehicles due to space restrictions. Disaster District Committee personnel not stationed at Hurst DDC 4A/ Fort Worth JEOC located at 275 West 13th Street Fort Worth TX, 76102-6333, may be pre-staged. The DSHS Austin Headquarters is located at the Exchange Building 8407 Wall Street 78754 Austin TX (512) 834-6770. To allow for maximum amount of play, DSHS JIC staff will pre-stage in the area. The JIC is located at the Granbury City Hall, 116 West Bridge Street, Granbury TX 76048. An extra dispatcher will be placed on duty at the Hood and Somervell County Sheriff's office to handle the regular workload.

Sub-element 1.c - Direction and Control Criterion 1.c.1:

FEMA REP: Sub-element 1.c – Direction and Control	Criterion 1.c.1:	Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible. (NUREG-0654/FEMA-REP-1, A.1.d; A. 2.a, b; A.3; C.4, 6)
CORE CAPABILITY: Operational Communications	Objective 1:	Leadership personnel demonstrate the ability to carry out essential management functions in accordance to plans and procedures.
	Objective 1:	Leadership personnel coordinate with other OROs, to ensure completion of requirements and requests.
CORE CAPABILITY: Situational Assessment	Objective 1:	Leadership personnel demonstrate the ability to prioritize resource tasking and replacement/supplement resources.
	Objective 2:	Leadership personnel demonstrate the ability to keep staff informed through periodic briefings and/or other means.

Locations:

Hurst DDC 4A / Fort Worth JEOC, Hood County EOC, Somervell County EOC

Extent of Play: None Findings: None

Sub-element 1.d - Communications Equipment

Criterion 1.d.1:

FEMA REP: Sub-element 1.d – Communications Equipment	Criterion 1.d.1:	At least two communication systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654/FEMA-REP-1, F.1, 2)
CORE CAPABILITY:	Objective 1:	Demonstrate that a primary system and at least one
Operational		backup system are fully functional at all times.
Communications	Objective 2:	Communications equipment and procedures for
1		facilities and field units are used as needed for
	1 y	transmission and receipt of exercise messages
	Objective 3:	Demonstrate the capability to manage the
•		communications systems and ensure that all message
		traffic is handled without delays that might disrupt
,	<u> </u>	emergency operations.

Locations:

Hurst DDC 4A / Fort Worth JEOC, DSHS EOF, DSHS Field Teams (FMTs), JIC, Hood County EOC, Somervell County EOC

<u>Extent of Play:</u> A controller phone cell will be established by TDEM to ensure appropriate communications are accomplished and to ensure fluid exercise play.

Findings: None

<u>Sub-element 1.e - Equipment and Supplies to Support Operations</u> Criterion 1.e.1:

FEMA REP: Sub-element 1.e – Equipment and Supplies to Support Operations	Criterion 1.e.1:	Equipment, maps, displays, monitoring instruments, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations. (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J. 10.a, b, e; J.11, 12; K.3.a; K.5.b)
CORE CAPABILITY: Environmental Response/ Health and Safety	Objective 1:	Demonstrate sufficient inventories of KI for use by emergency workers and as stipulated by plans and procedures. (A physical inspection will be done to verify quantity and expiration date.)
	Objective 2:	Sufficient quantities of appropriate direct-reading and permanent record dosimetry and dosimeter chargers are available for issuance to all emergency workers dispatched to conduct activities in areas where potential exposure is possible (including bus drivers evacuating schools, first responders, and persons reentering a traffic access control point).
	Objective 3:	Monitoring instruments are inspected, inventoried, and operationally checked before use. Instruments are calibrated in accordance with the manufacturer's recommendations and a range-of-reading label/sticker is affixed to the instrument.
	Objective 4:	All responders have sufficient equipment, maps, displays and other supplies to support emergency operations at their deployed location.

Locations:

Hurst DDC 4A / Fort Worth JEOC, DSHS EOF, DSHS FMTs, JIC, Hood County EOC, Somervell County EOC

<u>Extent of Play:</u> Instrument calibration will be specific to each manufacturer's specification. Equipment not required for demonstrating exercise evaluation criterion may be left at the staging area to allow for additional space within the vehicles. The availability of silver zeolite

cartridges will be demonstrated. However, charcoal filters are authorized in lieu of silver zeolite cartridges for exercise purposes. Access to Personal Protective Equipment (PPE) clothing will be demonstrated, however will not be worn during the exercise demonstration. The use of PPE will be demonstrated out of sequence in accordance with applicable procedures, so that donning and doffing of anti-c's can be demonstrated at the staging area in the air conditioning. Field Team PPE requirements will consist of booties and gloves. *Request the option to correct issues immediately (Correction-on-the-spot).

Findings: None

EVALUATION AREA 2: PROTECTIVE ACTION DECISION-MAKING Criterion 2.a.1:

FEMA REP: Sub-element 2.a – Emergency Worker Exposure Control	Criterion 2.a.1:	OROs use a decision-making process, considering relevant factors and appropriate coordination, to insure that an exposure control system, including the use of KI, is in place for emergency workers including provisions to authorize radiation exposure in excess of administrative limits or protective action guides. (NUREG-0654/FEMA-REP-1, C.6; J. 10.e, f; K.4)
CORE CAPABILITY: Environmental Response/Health and	Objective 1:	Demonstrate a capability to comply with emergency worker exposure limits based on emergency plans and procedures.
Safety	Objective 2:	Demonstrate the distribution and administration of KI as a protective measure for emergency workers.
CORE CAPABILITY: Situational Assessment	Objective 1:	Leadership personnel demonstrate the capability to make decisions concerning authorization of exposure levels in excess of pre-authorized levels and the numbers of emergency workers receiving radiation doses above pre-authorized levels.
	Objective 2:	Leadership personnel demonstrate the capability to make decisions on the distribution of KI based on projected thyroid dose compared with the established PAGs for KI administration.
CORE CAPABILITY: Operational Communications	Objective 1:	Demonstrate delivery/transmission of recommendation to administer KI to all OROs impacted by this decision.

Locations:

DSHS EOF, Hood County EOC, Somervell County EOC

<u>Extent of Play:</u> If the scenario does not warrant a discussion on either the authorization to administer KI or Emergency Worker (EW) exposure exceeding administrative limits, then the criterion will be accomplished through an inject at the EOF. Decision making for KI and EW

exposure level above administrative limits is done at the EOF and the local EOC. <u>Findings:</u> None

<u>Sub-element 2.b. - Radiological Assessment and Protective Action</u> Criterion 2.b.1:

FEMA REP: Sub-element 2.b - Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency	Criterion 2.b.1:	Appropriate protective action recommendations (PARs) are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions. (NUREG-0654/FEMA-REP-1, I.10; Supp.3)
CORE CAPABILITY: Environmental Response/Health and Safety	Objective 1:	Demonstrate the capability to use appropriate means described in plans and procedures to develop protective action recommendations (PARs) for decision-makers based on available information provided by the licensee, as well as field monitoring data, if available.
CORE CAPABILITY: Situational Assessment	Objective 1:	Demonstrate a reliable capability to independently validate plant (source term) assessments by calculating dose projections related to quantities and units of the PAG to which they are being compared.
	Objective 2:	Demonstrate the capability to use any additional data to refine projected doses and exposure rates and revise associated PARs.
,	Objective 3:	If licensee and ORO projected doses differ by more than a factor of 10, the source of the difference must be determined.
CORE CAPABILITY: Operational Communications	Objective 1:	Demonstrate delivery/transmission of protective action recommendations to all ORO decision-makers in a timely manner.

Locations:

DSHS EOF

Extent of Play: DSHS RCP Headquarters is located in Austin, TX on the third floor of the Exchange Building Room N301 at 8407 Wall Street Austin TX, 78754. DSHS HQ will provide Accident Assessment while the team is in route to the incident site, and will remain in contact until they arrive. If the Comanche Peak (CP) EOF has been staffed by DSHS prior to declaration

of a General Emergency (GE), it will be the only facility evaluated for this criterion. Findings: None

Criterion 2.b.2:

FEMA REP:	Criterion 2.b.2:	A decision-making process involving consideration of
Sub-element 2.b -		appropriate factors and necessary coordination is used
Radiological		to make protective action decisions (PADs) for the
Assessment and		general public. (NUREG-0654/FEMA-REP-1, A.3; C.4, 6;
Protective Action		D.4; J.9; J.10.f, m)
Recommendations and		
Decisions for the Plume		
Phase of the Emergency		
CORE CAPABILITY:	Objective 1:	Demonstrate the capability to provide strategic
Operational		direction by use of appropriate means described in
Coordination		plans and procedures to make both initial and
•		subsequent precautionary and/or protective action
		decisions for the general public.
. •		
CORE CAPABILITY:	Objective 1:	Consider information from the licensee, assessment of
Situational Assessment		plant status and potential or actual releases, other
		available information related to the incident, input
		from appropriate ORO authorities, and PARs from the
		utility and ORO staff when making protective action
• • •		decisions for the general public.
CORE CAPABILITY:	Objective 1:	Demonstrate delivery/transmission of protective action
	Objective 1:	
Operational		decisions to the general public (residents, transients,
Communications		and emergency responders) in a timely manner.
<u> </u>		

Locations:

Hood County EOC, Somervell County EOC

Extent of Play: The protective action decisions that result from this decision-making process will not be implemented. No member of the public will be relocated. According to the State policy, KI is not considered for the general public. If the scenario is not sufficient to drive the decision to recommend KI for EW, the criteria will be demonstrated in both counties by interview and injects at the end of the exercise. *Request the option to correct issues immediately (Correction-on-the-spot).

Findings: None

<u>Sub-element 2.c - Protective Action Decisions Consideration for the Protection of Special Populations</u>

Criterion 2.c.1:

FEMA REP:	Criterion 2.c.1:	Protective action decisions are made, as appropriate, for			
Sub-element 2.c –		groups of persons with disabilities and			
Precautionary and/or	access/functional needs. (NUREG-0654/FEMA-REP-1				
Protective Action	D.4; J.9; J.10.d, e)				
Decision Consideration					
for the Protection of					
Persons with					
Disabilities and	,				
Access/Functional					
Needs					
CORE CAPABILITY:	Objective 1:	Demonstrate the capability to provide strategic			
Operational		direction by use of appropriate means described in			
Coordination		plans and procedures to make both initial and			
•	·	subsequent precautionary and/or protective action			
		decisions for persons with disabilities and			
		access/functional needs.			
		access, ranctional needs.			
CORE CAPABILITY:	Objective 1:	Consider information from the licensee, assessment of			
Situational Assessment		plant status and potential or actual releases, other			
		available information related to the incident, input			
		from appropriate ORO authorities, and PARs from the			
		utility and ORO staff when making protective action			
	·	decisions for persons with disabilities and			
		access/functional needs.			
CORE CAPABILITY:	Objective 1:	Demonstrate delivery/transmission of protective action			
Operational		decisions to persons with disabilities and			
Communications		access/functional needs in a timely manner.			
. 1	2				

Locations:

Hood County EOC, Somervell County EOC

<u>Extent of Play:</u> Protective action decisions for special needs individuals will be considered at the County EOCs; however, actual demonstration of protective actions will not be performed. Hood and Somervell County EOC staff will demonstrate this evaluation area through discussion and showing the evaluator a roster of special needs individuals within the 10-mile emergency planning zone.

Findings: None

EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION

<u>Sub-element 3.a - Implementation of Emergency Worker Exposure Control</u> Criterion 3.a.1:

FEMA REP:	Criterion 3.a.1: The OROs issue appropriate dosimetry, KI, and
Sub-element 3.a –	procedures, and manage radiological exposure to
Implementation of	emergency workers in accordance with the

Emergency Worker Exposure Control		plans/procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record-keeping of the administration of KI to emergency workers. (NUREG-0654/FEMA-REP-1, K.3.a, b; K.4)
CORE CAPABILITY: Environmental	Objective 1:	Demonstrate the issuance of appropriate dosimetry, KI, and procedures.
Response/Health and Safety	Objective 2:	Demonstrate the ability to manage radiological exposure to emergency workers in accordance with plans and procedures.
	Objective 3:	Demonstrate emergency worker's ability to periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart.
	Objective 4:	Maintain appropriate record-keeping of the administration of KI to emergency workers.

Locations:

DSHS EOF, DSHS FMTs, Hood County EOC, Somervell County EOC

Extent of Play: Personnel located at facilities outside the 10-mile EPZ and not reporting to a location within the 10-mile EPZ will not be issued dosimetry per County Plans and Procedures. Exercise TLDs will be used for the exercise. Access to TLDs for real events will be demonstrated. The evaluation for these criteria will be conducted by an interview at an agreed upon time. Distribution of KI to EW will be simulated by using copies of the Patient Packet Insert to represent actual KI supplies. EW will simulate actual ingestion of KI. The use of KI by the general public is not recommended in the State of Texas. *Request the option to correct issues immediately (Correction-on-the-spot).

Findings: None

<u>Sub-element 3.b - Implementation of KI Decision for Institutionalized Individuals and the General Public</u>

Criterion 3.b.1:

FEMA REP: Sub-element 3.b – Implementation of KI Decision for Institutionalized Individuals and the General Public	Criterion 3.b.1:	KI and appropriate instructions are available should a decision to recommend use of KI is made. Appropriate record-keeping of the administration of KI for institutionalized individuals is maintained. (NUREG-0654, J.10.e, f.)
CORE CAPABILITY: Environmental	Objective 1:	Demonstrate the capability to make KI available to institutionalized individuals, and, where provided for in

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Response/Health and	their plans and procedures.
Safety	

Locations:

Hood County EOC, Somervell County EOC

Extent of Play: None Findings: None

<u>Sub-element 3.d. - Implementation of Traffic and Access Control</u> Criterion 3.d.1:

FEMA REP: Sub-element 3.d – Implementation of Traffic and Access Control	Criterion 3.d.1:	Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654/FEMA-REP-1, A.3; C.1,4; J.10.g, j)
CORE CAPABILITY: Operational Coordination	Objective 1: Objective 2:	Demonstrate the capability to select, establish, and staff appropriate traffic and access control points consistent with current conditions and PADs in a timely manner. Provide accurate instructions to traffic and access
		control staff on actions to take when modifications are made to traffic patterns.
CORE CAPABILITY: On- Scene Security and Protection	Objective 1:	Demonstrate roles and responsibilities, including verifying emergency worker identification and access authorization to the affected areas (by interview)

Locations:

Hood County EOC, Somervell County EOC

Extent of Play: The T/ACP decision-making process will be demonstrated in real-time sequence; however, travel to the T/ACP will be simulated. The T/ACP demonstration will be simulated. A law enforcement officer representing each county and assigned to the T/ACP will discuss their knowledge of their role and responsibilities by interview with the evaluator prior to leaving the Hood and Somervell County EOCs. This interview can occur out of sequence of the exercise scenario, but during the exercise, at a time agreed upon by the Hood and Somervell controller and FEMA evaluator. * Request the option to correct issues immediately (Correction-on-the-spot).

Findings: None

Criterion 3.d.2:

FEMA REP:	Criterion 3.d.2: Impediments to evacuation are identified and resolved.
TEIVIA INEF.	Citterion 3.4.2. Impediments to evacuation are identified and resolved.

Sub-element 3.d – Implementation of Traffic and Access Control	-	(NUREG-0654/FEMA-REP-1, J.10.k)
CORE CAPABILITY: Operational Coordination	Objective 1:	Demonstrate the capability to identify impediments to evacuations and take appropriate actions by re-routing traffic.
	Objective 2:	Coordinate with the JIC to communicate the alternate route to evacuees.
CORE CAPABILITY: Infrastructure Systems	Objective 1:	Demonstrate the capability to dispatch resources used to support clearing of roadways.

Locations:

Hood County EOC, Somervell County EOC

Extent of Play: A controller inject will be used to initiate the demonstration for this criterion. The inject will occur during the evacuation and it will be on an evacuation route. No impediment will actually occur, however, the situation and solution will be discussed in the appropriate EOC. Clearing of the impediment will not occur prior to demonstration of the rerouting process that includes coordination with the JIC.

Findings: None

EVALUATION AREA 4: FIELD MEASUREMENT AND ANALYSIS Criterion 4.a.2:

FEMA REP: Sub-element 4.a-Plume Phase Field Measurements and Analysis	Criterion 4.a.2:	Field teams (2 or more) are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654, C.1; H.12; I.7,8,11; J.10.a)
CORE CAPABILITY: Situational Assessment	Objective 1:	Demonstrate a field team briefing that includes the predicted plume location and direction, plume travel speed, and exposure control procedures prior to deployment.
	Objective 2:	Demonstrate the ability for teams to take measurements at such locations and times as necessary

Locations:

DSHS EOF

Extent of Play: Field monitoring activities may be out-of-sequence demonstrations, as agreed

plume and its impacts.

to provide sufficient information to characterize the

upon by the controller and evaluator at the time of the exercise. <u>Findings:</u> None

Criterion 4.a.3:

FEMA REP: Sub-element 4.a-Plume Phase Field Measurements and Analysis	Criterion 4.a.3:	Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams should move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sample media. (NUREG-0654/FEMA-REP-1, C.1; H.12; I.8, 9; J.10.a)
CORE CAPABILITY: Environmental Response/ Health and Safety	Objective 1:	Demonstrate the capability to make and report measurements of ambient radiation to the field team coordinator, dose assessment team, or other appropriate authority.
	Objective 2:	Demonstrate the capability to obtain an air sample for measurement of airborne radioiodine and particulates, and move to an appropriate low background location to perform a field analysis in accordance to DSHS RCP FMT procedure.

Locations:

DSHS FMTs

Extent of Play: Equipment not required for demonstrating exercise evaluation criterion may be left at the staging area to allow for additional space within the vehicle. Charcoal filters are authorized in lieu of silver zeolite cartridges for exercise purposes but availability of silver zeolite cartridges will be demonstrated. If the scenario is not sufficient to drive demonstration of the air sampling criteria an inject will be provided by the FT controller at the end of the exercise allowing the FTs to take an air sample. In addition, the controller will inject the need for a Field Analysis for I-131 with 5,000 net cpm on the filter and 600,000 net cpm on the cartridge as the result of the measurement. *Request the option to correct issues immediately (Correction-on-the-spot).

Findings: None

EVALUATION AREA 5: EMERGENCY NOTIFICATION & PUBLIC INFORMATION

<u>Sub-element 5.a - Activation of the Prompt Alert and Notification System</u> Criterion 5.a.1:

FEMA REP:	Criterion 5.a.1: Activities associated with primary alerting and notification
Sub-element 5.a-	of the public are completed in a timely manner
Activation of the	following the initial decision by authorized off-site
Prompt Alert and	emergency officials to notify the public of an emergency

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Notification System		must include as a minimum the elements required by current REP guidance. (NUREG-0654/FEMA-REP-1, E.5, 6, 7)
CORE CAPABILITY: Public Information and Warning	Objective 1:	Demonstrate the 24-hour capability to provide an alert signal followed by an initial instructional message to populated areas (permanent resident and transient) throughout the 10-mile in a timely manner.

Locations:

Hood County EOC, Somervell County EOC, EAS Radio Station WBAP Extent of Play: Siren activation will be simulated. Simulation of the siren activation will be in real time sequence with the transmission of the EAS message. The sirens will be sounded at the appropriate time in the exercise in accordance with the decision and the EAS message will follow the siren sounding. Emergency Alert System (EAS) message content will be determined and communicated to the EAS stations; however, the broadcasts will be simulated. WBAP News/Talk 820 AM 3090 Olive Street, West Victory Plaza, Suite 400, Dallas, TX 75219, Operations Manager: Tyler Cox 214-520-4365. Route alerting will not be demonstrated. Findings: None

<u>Sub-element 5.b - Emergency Information and Instructions for the Public and the Media</u> Criterion 5.b.1:

FEMA REP:	Criterion 5.b.1:	OROs provide accurate subsequent emergency
Sub-element 5.b-		information and instructions to the public and the news
Subsequent Emergency		media in a timely manner. (NUREG-0654/FEMA-REP-1,
Information and		E.5, 7; G.3.a; G.4.a, c)
Instructions for the		
Public and Media		
CORE CAPABILITY: Operational	Objective 1:	Demonstrate coordination to ensure that emergency information and instructions are consistent with PADs
Coordination	· · · · · · · · · · · · · · · · · · ·	made by appropriate officials and contains all necessary instructions.
CORE CAPABILITY: Public Information and Warning	Objective 1:	Demonstrate the ability to provide emergency information and instructions to the public and media in a timely manner following the initial alert and notification.
: 	Objective 2:	Demonstrate the ability to provide ingestion pathway information to pre-determined individuals and businesses in accordance with plans and procedures.
	Objective 3:	Demonstrate the ability to provide media information kits to the media.

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Objective 4:	Demonstrate that an effective system is in place for
 	dealing with calls received via the public inquiry hotline.

Locations:

JIC, Hood County EOC, Somervell County EOC

<u>Extent of Play:</u> Messages will not be broadcast over commercial radio or television. Four (4) telephones will be staffed at the JIC for the public inquiry demonstration. A phone cell and mock media will inject rumors. The Texas Division of Emergency Management (TDEM) will not make any emergency information releases.

Findings: None

GENERAL EXTENT-OF-PLAY (EOP):

- 1. With regard to last minute additions or changes to any previously approved Extent-of-Play, all suggested changes must be forwarded to the RAC Chair for approval.
- The goal of all offsite response organizations (ORO) is to protect the health and safety of the public.
 This goal is achieved through the execution of appropriate plans and procedures. It is recognized that situations may arise that could limit the organizations in the exact execution of these plans and procedures.
- 3. As a statement of fact, no ORO will deliberately deviate from its plans and procedures with the intent of avoiding responsibility.
- 4. Federal involvement will not be evaluated.
- 5. The exercise may be suspended or terminated due to a real emergency situation.
- 6. * Correction-on-the-spot will be requested for all applicable criteria.
- 7. No protective action decisions impacting the general public will be made beyond the 10-mile EPZ regardless of the scenario.

-Acronyms---

ARC - American Red Cross

CP - Comanche Peak Nuclear Power Plant

DPS - Department of Public Safety

DSHS - Department of State Health Services

EAS - Emergency Alert System

EW - Emergency Worker

EOC - Emergency Operations Center

EOF - Emergency Operations Facility

EOP - Extent of Play

EPZ - Emergency Planning Zone

FEMA - Federal Emergency Management Agency

FMT - Field Monitoring Team

HQ - Headquarters

ICP - Incident Command Post

JIC - Joint Information Center

KI - Potassium Iodide

LLEA - Local Law Enforcement Agencies

ORO - Offsite Response Organization

PPE - Personnel Protective Equipment

RAC - Regional Assistance Committee

SAE - Site Area Emergency

T/ACP - Traffic and Access Control Point

TDEM - Texas Division of Emergency Management